

SEPP 65 DESIGN REPORT

**PROPOSED RESIDENTIAL FLAT
DEVELOPMENT CONSISTING OF
108 APARTMENTS OVER
BASEMENT PARKING**

AT

**LOT 1, DP 770451
141 DARKES ROAD,
KEMBLA GRANGE**

Prepared By



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Revision C | August 2018

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1

DESIGN VERIFICATION STATEMENT

The purpose of this statement is to outline the design rationale and process that was adopted to prepare the application scheme.

1.0 SEPP 65 DESIGN VERIFICATION STATEMENT

Prepared to accompany the Development Application submitted to Council

10 August, 2018

Project Address

141 Darkes Road,
Kembla Grange NSW

Prepared on behalf:
G.C Property Holdings Pty Ltd

Prepared by:
ADM Architects

Verification of Qualifications

Angelo Di Martino is a registered Architect in New South Wales and is enrolled in the Division of Chartered Architects in the register of Architects pursuant to the Architect Act 1921, registration number 7608.

Angelo Di Martino completed his Bachelor of Architecture in 1995 from the University of Technology Sydney with honours and is the director of ADM Architects. He is also a member of the Australian Institute of Architects.

Statement of Design

Angelo Di Martino has been responsible for the design of the project since its inception and has worked with other related professionals and experts in developing the design to DA submission. The project has been designed to provide a development that is respectful of local planning and design controls and responds to the nine design quality principles of SEPP No. 65.

Angelo Di Martino, verifies that as required by the Clause 50 (1AB) of the Environmental Planning and Assessment Regulation 2000 the design quality principles set out in Schedule 1, design quality principles of the State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development and the objectives in Part 3 and Part 4 of the Apartment Design Guide have been achieved for the proposed development as described in the following document.

Signed:



Name: **Angelo Di Martino** DIRECTOR B.Arch (Hon) AIA

NSW ARB No. 7608

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SEPP 65 DESIGN QUALITY PRINCIPLES

2.0 SEPP 65 DESIGN QUALITY PRINCIPLES

2.1 Principle 1: Context and neighbourhood character

Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions. Responding to context involves identifying the desirable elements of an area's existing or future character. Well-designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

Statement of Compliance:

The proposal has been developed in relation to the desired future character of the area as set out in the 2009 Wollongong Local Environmental Plan. The proposal provides residential uses consistent with the objectives of the zoning. The siting of the building responds to its corner location, its relationship to the current and future road and the varying environmental conditions of the site including the trees. These responses result in a building form and articulation that will contribute to the existing and future desired streetscape.

2.2 Principle 2: Built form and scale

Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings. Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

Statement of Compliance:

The proposed building is appropriate in terms of its bulk and height. Its overall height complies with what is identified as the maximum permissible height for the site as defined by the Wollongong 2009 Local Environmental Plan.

2.3 Principle 3: Density

Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context. Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

Statement of Compliance:

The proposal meets the density objectives of the site as defined by the 2009 Wollongong Local Environmental Plan.

2.4 Principle 4: Sustainability

Good design combines positive environmental, social and economic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials and deep soil zones for groundwater recharge and vegetation.

Statement of Compliance:

Apartments have been designed to optimise thermal performance, provide increased amenity to occupants and reduce greenhouse emissions and therefore the cost of energy supply. Where possible, layouts promote cross ventilation and good solar orientation. Extensive areas of deep soil planting have been provided to promote biodiversity.

2.5 Principle 5: Landscape

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well-designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood. Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values and preserving green networks. Good landscape design optimises usability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity and provides for practical establishment and long-term management.

Statement of Compliance:

The landscape design is integrated with the building design and arrangement of external public and communal spaces. The landscape elements proposed play an important role in defining the key spaces within and around the site and enhance the occupants' privacy across public and private thresholds. The species proposed have been selected in consideration of the climatic conditions on the site, the existing ecosystem, water management on the site and their long-term success in relation to these factors. There is no existing vegetation within the site to be maintained.

2.6 Principle 6: Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well-being. Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas and ease of access for all age groups and degrees of mobility.

Statement of Compliance:

The building has been designed to optimise unit internal amenity, maintain the amenity of the adjoining properties and provide adequate open space between them. The site layout meets the requirements for accessibility and building separation. Appropriate room sizes and shapes are provided and supported by access to sunlight and ventilation, sufficient storage, efficient layouts and service areas. Access to sunlight, ventilation and views are maximised throughout.

2.7 Principle 7: Safety

Good design optimises safety and security within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety. A positive relationship between public and private spaces is achieved through clearly defined secure access points and well-lit and visible areas that are easily maintained and appropriate to the location and purpose.

Statement of Compliance:

The proposal optimises safety and security both within the development and public domain. Apartment layouts have been designed to provide overlooking of the public spaces and communal whilst providing privacy for the occupants. The public spaces are clearly defined and distinct from private space. They are well lit and avoid dark, dead end spaces that are not visible. The building entry points are clearly defined from the public domain.

2.8 Principle 8: Housing Diversity and social interaction

Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets. Well-designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.

Statement of Compliance:

There are 10 different unit types ranging in size from 52sqm to 88sqm, providing appropriate housing choice for different groups. Two apartment types are adaptable to meet the requirements of AS4229.

2.9 Principle 9: Aesthetics

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures. The visual appearance of a well-designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

Statement of Compliance:

The proposal contributes to both the existing streetscape and the desired future character of the area. The building's structure and architectural proportions respond both to its internal uses and external environmental factors, resulting in a positive architectural aesthetic comprising of forms, materials and colours.

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ADG RESPONSE TABLE

The following content outlines the response to Part 3 & Part 4 of the Apartment Design Guide.

3.0 APARTMENT DESIGN GUIDE RESPONSE TABLE

ITEM	GUIDELINE	COMPLIES	COMMENT
PART 3 – Siting the Development			
3A Site Analysis	3A-1 Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context	Yes	Refer Architectural submission and supporting Statement of Environmental Effects.
3B Orientation	3B-1 Building types and layouts respond to the streetscape and site while optimising solar access within the development	Yes	The primary living and balcony areas of 75% of apartments are oriented to the north, north east or north west and articulated to respond to the streetscape.
	3B-2 Overshadowing of neighbouring properties is minimised during mid-winter	Yes	Rear setback is maximised and exceeds the minimum required.
	3C-1 Transition between private and public domain is achieved without compromising safety and security	Yes	The residential entry is clear and direct from each frontage.
3C Public Domain Interface	3C-2 Amenity of the public domain is retained and enhanced	Yes	The proposal includes new landscaping to the street frontages and establishing new footpaths.
	3D-1 Communal open space is consolidated, well configured and designed	Yes	32% of the site area comprises of communal space, in various locations, along the north, central and southern areas of the site.
3D Communal and Public Open Space	3D-2 Communal open space can be used for a range of activities	Yes	The communal space comprises of soft landscaping, decking, seating, bbq area and hard stand areas which encourage a variety of uses and activities.
	3D-3 Safety of communal open space is maximised	Yes	The communal space is readily visible from the habitable rooms and balconies of approximately 50% of apartments.
	3D-4 Public open space, where provided, responds to the existing pattern and uses of the neighbourhood	N/A	
	3E-1 Deep soil zones are suitable for healthy plant and tree growth, improve residential amenity and promote management of water and air quality	Yes	Three large deep soil zone areas are provided across the site. In total, the DSZ comprises of 16.8% of the site area. Additional deep soil zone are located at the street corner.
3D Deep Soil Zones	3F-1 Visual separation distances are shared equitably between neighbouring sites, providing reasonable levels of external and internal visual privacy	Yes	The site currently does not adjoin residential development on two sides. A minimum 17m setback along the majority of the southern boundary more than complies with the minimum ADG requirements. Block A has a 14.0m setback to the southern boundary, where the new access road is proposed.
3F Visual Privacy	3F-2 Site and building design elements increase privacy without compromising access to light and air, balance	Yes	Communal spaces, common areas and access paths are separated from private open space by screen fencing and landscaping.

	outlook and views from habitable rooms and private open space			
3G Pedestrian Access and Entries	3G-1 Building entries and pedestrian access connects to and addresses the items public domain	Yes		The pedestrian entry pathway and lobby are directly visible and universally accessible from all road frontages.
	3G-2 Access, entries and pathways are accessible and easy to identify	Yes		The primary entry lobbies to each building are clearly visible from each frontage and fully accessible to comply to AS1428.1.
3H Vehicle Access 3J Bicycle and Car Parking	3G-3 Pedestrian links through developments provide access to streets and connect destinations	N/A		
	3H-1 Vehicle access points are designed and located to achieve safety and high-quality streetscapes	Yes		The vehicular access point was selected and coordinated with the consulting traffic engineer.
	3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas	No		Carparking is provided in accordance with the Wollongong City Council parking requirements.
	3J-2 Parking and facilities are provided for other modes of transport	Yes		Motor bike and bicycle parking are provided.
	3J-3 Car park design and access is safe and secure	Yes		Carpark design is in accordance with AS2890 and compliant
	3J-4 Visual and environmental impacts of underground car parking are minimised	Yes		The visual impact is minimised by eliminating any resident and visitor carparking above natural ground level.
PART 4 – Designing the Building 4A Solar and Daylight Access	3J-5 Visual and environmental impacts of on-grade car parking are minimised	N/A		
	3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised	N/A		
	4A-1 Optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space	Yes		84/108 (77%) of apartments receive more than the minimum 2 hours of sun between 9am and 3pm mid-winter. Also refer Section 4 –Compliance Summary Table for more information.
	4A-2 Daylight access is maximised where sunlight is limited	Yes		24/108 (22%) of apartments do not receive the required 2 hours of sunlight on the winter solstice.
	4A-3 Design incorporates shading and glare control, particularly for warmer months	Yes		
	4B-1 All habitable rooms are naturally ventilated	Yes		72/108 (67%) of apartments are cross ventilating.
4B Natural Ventilation	4B-2 Natural ventilation for single aspect apartments is maximised	Yes		All habitable rooms are provided with large sliding glass doors and windows.
	4B-3 The number of apartments with natural cross ventilation is maximised	Yes		72 apartments (67%) achieve natural cross ventilation. Also refer Section 4 –Compliance Summary Table for more information.

4C Ceiling Heights	4C-1 Ceiling height achieves sufficient natural ventilation and daylight access	Yes	3.0m floor to floor provides for 2.7m floor to ceiling (approximately). Also refer Section 4 –Compliance Summary Table for more information.
	4C-2 Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms	Yes	Ceiling heights are maximised in habitable rooms by limiting bulkhead intrusions. The design stacks service rooms between floors to minimise lower ceilings from plumbing voids.
	4C-3 Ceiling heights contribute to the flexibility of building use over the life of the building	N/A	
4D Apartment Size and Layout	4D-1 Spatial arrangement and layout of apartments is functional, well organised and provides a high standard of amenity	Yes	Apartments exceed the minimum internal areas described in the ADG, in this case being 52sqm for a 1 bed type and 80sqm for a 2 bed type.
	4D-2 Environmental performance of the apartment is maximised	Yes	All living areas and bedrooms are located on the external face of the building.
	4D-3 Apartment layout can accommodate a variety of household activities and needs	Yes	Access to bedroom, bathrooms and laundries is separated from living rooms to minimise direct openings between living and service areas. Apartment layouts provide room dimensions which facilitate a variety of furniture arrangements and spaces for a range of activities and privacy levels between them.
4E Private Open Space and Balconies	4E-1 Primary private open space and balconies are appropriately sized	Yes	Balconies meet or exceed the minimum areas and widths required in the Apartment Design Guide.
	4E-2 Primary private open space and balconies are appropriately located	Yes	Primary open space and balconies are located adjacent to the living room, dining rooms and master bed room.
	4E-3 Private open space and balcony design is integrated into the overall architectural form and detail of the building	Yes	Balconies are designed to respond to the location and to allow views while maintaining visual privacy. Operable screens improve amenity in terms of wind and sun control. Water and gas outlets are provided to all primary balcony spaces.
	4E-4 Private open space and balcony design maximises safety	Yes	
4F Common Circulation and Spaces	4F-1 Common circulation spaces achieve good amenity and provide for a variety of apartment types	Yes	Daylight and natural ventilation are provided to common circulation areas. All common circulation areas facilitate universal access.
	4F-2 Common circulation spaces provide for interaction between residents	Yes	Each lobby is small and compact with direct and legible access between the lift and the apartment entry door.
4G Storage	4G-1 Adequate, well designed storage is provided in each apartment	Yes	Storage is provided within the apartment and the basement area for each apartment.
	4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments	Yes	Storage is provided in the basement carpark at the rear or side of car spaces within cages.

4H Acoustic Privacy	4H-1 Noise transfer is minimised through the siting of buildings and building layout	Yes	Adequate separation is provided to adjacent buildings. Noisier areas such as lift and entries are located away from habitable areas. Party walls and floors will exceed the minimum sound impact ratings.
	4H-2 Noise impacts are mitigated through internal apartment layout and acoustic treatments	Yes	Internal layout separates living areas from bedroom areas. Robe areas in bedrooms buffer bathroom walls.
4I Noise and Pollution	4I-1 In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of the buildings	Yes	The design responds both to solar and noise requirements.
	4I-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission.	Yes	Solid balcony balustrades at the lower levels fronting the road reduces the perception of noise and increases the physical separation to the road. A 10m building setback to Darkes Road also reduces noise levels.
4K Apartment Mix	4K-1 A range of apartment types and sizes is provided to cater for different types now and into the future	Yes	There are 7 apartment types ranging in size from 52sqm to 88sqm and configured as 1 & 2.
	4K-2 The apartment mix is distributed to suitable locations within the building	Yes	The larger 2 bed apartment types are located on the upper levels where they are afforded greater open space and views.
4L Ground Floor Apartments	4L-1 Street frontage activity is maximised where ground floor apartments are located	N/A	
	4L-2 Design of ground floor apartments delivers amenity and safety for residents	N/A	
4M Facades	4M-1 Building facades provide visual interest along the street while respecting the character of the local area	Yes	The facade includes a composition of varied building elements forming a base, middle and top of the building.
	4M-2 Building functions are expressed by the facade	Yes	All building services and rainwater pipes will be concealed within the structure.
4N Roof Design	4N-1 Roof treatments are integrated into the building design and positively respond to the street	Yes	The roof design is integrated into the overall form and massing of the building, providing shading and protection to the facade and visual interest.
	4N-2 Opportunities to use roof space for residential accommodation and open space are maximised	No	All communal space was provided at ground level. Roof access would exceed the maximum permissible height.
	4N-3 Roof design incorporates sustainability features	Yes	The roof design maximises solar access to the roof top apartment in winter and shade in summer.
4O Landscape Design	4O-1 Landscape design is viable and sustainable	Yes	The landscape design incorporates appropriately scaled trees along the street frontage and around the communal space. A balance of shrubs and hedges provide soft edges around fencing and walls.
	4O-2 Landscape design contributes to the streetscape and amenity	Yes	Landscaping is proposed between the building line and the street boundary at the level change.

4P Planting on Structures	4P-1 Appropriate soil profiles are provided open spaces	Yes	Refer landscape plan
	4P-2 Plant growth is optimised with appropriate selection and maintenance	Yes	Refer landscape plan.
	4P-3 To contribute to the quality and amenity of communal and public	Yes	Refer landscape plan.
4Q Universal Design	4Q-1 Universal design features are included in apartment design	Yes	The building achieves a benchmark 20% of the total yield incorporating the Livable Housing Standard and 10% adaptable to AS4299. Also refer Access report.
	4Q-2 A variety of apartments with adaptable designs are provided	No	
	4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs	Yes	Internal structure is non-loadbearing and can be altered in future.
4R Adaptive Reuse	4R-1 New additions to existing buildings are contemporary and complementary	N/A	2 different adaptable apartment designs have been provided being a 1 bed and 2 bed design.
	4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse	N/A	
4S Mixed Use	4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement	N/A	
	4S-2 Residential floors are integrated within the development, safety and amenity is also maximised	N/A	
4T Awnings and Signage	4T-1 Awnings are well located and complement and integrate with the building design	Yes	An extended awning is provided over each building entry to provide weather protection and assist in identifying the buildings main entry point.
	4T-2 Signage responds to the context and desired streetscape character	Yes	Signage is limited to a single wall along the street front. The signage is discrete in scale in response to the scale of the development.
	4U-1 Development incorporates passive environmental design	Yes	Adequate natural light is provided to habitable rooms.
4U Energy Efficiency	4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer	Yes	The design response provides for overhangs and shading devices such as awnings, screens and balconies. Roofs and floors are concrete, providing thermal mass to the building. Walls are insulated and all openings will be thermally sealed.
	4U-3 Adequate natural ventilation minimises the need for mechanical ventilation	Yes	Natural ventilation is provided to all habitable rooms, common circulation areas and lobby areas.
4V Water	4V-1 Potable water use is minimised	Yes	Water efficient fittings and appliances are incorporated. Refer BASIX certificates.

Management and Conservation	4V-2 Urban stormwater is treated on site before being discharged to receiving waters	Yes	Runoff is collected and used for re-use for irrigation. Also refer BASIX certificates.
	4V-3 Flood management systems are integrated into site design	Yes	The site storage areas have been designed in accordance with council requirements.
4W Waste Management	4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents	Yes	Waste storage is located behind the basement ramp, concealed from the building entry and streetscape.
	4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling	Yes	A recycling/waste bin has been provided away from the residential buildings.
4X Building Maintenance	4X-1 Building design detail provides protection from weathering	Yes	Roof overhangs protect walls, windows and openings. Architectural detailing will ensure horizontal edges will not cause drip or staining of wall surfaces.
	4X-2 Systems and access enable ease of maintenance	Yes	Centralised service risers are provided from common spaces. Windows are able to be cleaned from the inside or adjoining balcony areas.
	4X-3 Material selection reduces ongoing maintenance costs	Yes	Robust materials and finishes are selected, refer materials and finishes schedule as part of DA submission.

4

COMPLIANCE SUMMARY TABLE

4.0 COMPLIANCE SUMMARY TABLE

The following section outlines how the numerical standards in the primary design objectives outlined in the Apartment Design Guide are achieved.

SEPP 65 COMPLIANCE TABLE									
Project No: 2016-14									
Lot 1 DP 770451									
Darkes Road, Kembla Grange									
BLOCK A									
LEVEL	UNIT	TYPE	SIZE (1)	LOBBY (2)	POS AREA (3)	STORAGE (4)	SUNLIGHT ACCESS (5)	CROSS VENT. (6)	NO DIRECT SUNLIGHT (7)
L1	A101	2B	86m ²	24m ²	19m ²	5.m ³	1	1	0
	A102	2B	83m ²		32m ²	4.m ³	1	1	0
	A103	2B	79m ²		28m ²	4.m ³	1	0	0
L2	A201	2B	87m ²	24m ²	19m ²	5.m ³	1	1	0
	A202	2B	83m ²		15m ²	4.m ³	1	1	0
	A203	2B	83m ²		19m ²	4.m ³	1	1	0
L3	A301	2B	87m ²	24m ²	19m ²	5.m ³	1	1	0
	A302	2B	83m ²		15m ²	4.m ³	1	1	0
	A303	2B	83m ²		19m ²	4.m ³	1	1	0
L4	A401	2B	87m ²	24m ²	19m ²	5.m ³	1	1	0
	A402	2B	83m ²		15m ²	4.m ³	1	1	0
	A403	2B	83m ²		19m ²	4.m ³	1	1	0
TOTALS			1007m ²	96m ²	238m ²	52.m ³	12	11	0
PERCENTAGES							100%	92%	0%
REQUIRED							>70%	>60%	<15%

BLOCK B									
LEVEL	UNIT	TYPE	SIZE (1)	LOBBY (2)	POS AREA (3)	STORAGE (4)	SUNLIGHT ACCESS (5)	CROSS VENT. (6)	NO DIRECT SUNLIGHT (7)
L1	B101	2B	83m ²	46m ²	26m ²	4.m ³	0	1	0
	B102	2B	83m ²		27m ²	4.m ³	1	1	0
	B103	2B	83m ²		34m ²	4.m ³	1	0	0
	B104	1B	52m ²		20m ²	4.m ³	1	0	0
	B105	2B	80m ²		24m ²	4.m ³	1	1	0
L2	B201	2B	83m ²	46m ²	15m ²	4.m ³	0	1	0
	B202	2B	83m ²		15m ²	4.m ³	1	1	0
	B203	2B	83m ²		15m ²	4.m ³	1	1	0
	B204	1B	57m ²		8m ²	4.m ³	1	0	0

	B205	2B	80m ²		10m ²	4.m ³	1	1	0
L3	B301	2B	83m ²	46m ²	15m ²	4.m ³	0	1	0
	B302	2B	83m ²		15m ²	4.m ³	1	1	0
	B303	2B	83m ²		15m ²	4.m ³	1	1	0
	B304	1B	57m ²		8m ²	4.m ³	1	0	0
	B305	2B	80m ²		11m ²	4.m ³	1	1	0
L4	B401	2B	83m ²	46m ²	15m ²	4.m ³	0	1	0
	B402	2B	83m ²		15m ²	4.m ³	1	1	0
	B403	2B	83m ²		15m ²	4.m ³	1	0	0
	B404	1B	52m ²		12m ²	4.m ³	1	1	0
	B405	2B	80m ²		11m ²	4.m ³	1	1	0
TOTALS			1534m ²	184m ²	326m ²	80.m ³	16	15	0
PERCENTAGES							80%	75%	0%
REQUIRED							>70%	>60%	<15%

BLOCK C									
LEVEL	UNIT	TYPE	SIZE (1)	LOBBY (2)	POS AREA (3)	STORAGE (4)	SUNLIGHT ACCESS (5)	CROSS VENT. (6)	NO DIRECT SUNLIGHT (7)
L1	C101	2B	83m ²	46m ²	27m ²	4.m ³	0	1	0
	C102	2B	83m ²		27m ²	4.m ³	1	1	0
	C103	2B	83m ²		35m ²	4.m ³	1	0	0
	C104	1B	52m ²		20m ²	4.m ³	1	0	0
	C105	2B	83m ²		35m ²	4.m ³	1	1	0
L2	C201	2B	83m ²	46m ²	15m ²	4.m ³	0	1	0
	C202	2B	83m ²		15m ²	4.m ³	1	1	0
	C203	2B	83m ²		15m ²	4.m ³	1	1	0
	C204	1B	55m ²		8m ²	4.m ³	1	0	0
	C205	2B	83m ²		15m ²	4.m ³	1	1	0
L3	C301	2B	83m ²	46m ²	15m ²	4.m ³	0	1	0
	C302	2B	83m ²		15m ²	4.m ³	1	1	0
	C303	2B	83m ²		15m ²	4.m ³	1	1	0
	C304	1B	52m ²		8m ²	4.m ³	1	0	0
	C305	2B	83m ²		15m ²	4.m ³	1	1	0
L4	C401	2B	83m ²	46m ²	15m ²	4.m ³	0	1	0
	C402	2B	83m ²		15m ²	4.m ³	1	1	0
	C403	2B	83m ²		15m ²	4.m ³	1	1	0
	C404	1B	52m ²		12m ²	4.m ³	1	0	0
	C405	2B	83m ²		15m ²	4.m ³	1	1	0
TOTALS			1539m ²	184m ²	352m ²	80.m ³	16	15	0
PERCENTAGES							80%	75%	0%
REQUIRED							>70%	>60%	<15%

BLOCK D									
LEVEL	UNIT	TYPE	SIZE (1)	LOBBY (2)	POS AREA (3)	STORAGE (4)	SUNLIGHT ACCESS (5)	CROSS VENT. (6)	NO DIRECT SUNLIGHT (7)
L1	D101	2B	88m ²	38m ²	33m ²	4.m ³	1	1	0
	D102	2B	83m ²		38m ²	4.m ³	1	1	0
	D103	1B	53m ²		21m ²	4.m ³	1	0	0
	D104	2B	83m ²		38m ²	4.m ³	1	1	0
	D105	2B	88m ²		33m ²	4.m ³	0	1	1
L2	D201	2B	88m ²	38m ²	16m ²	4.m ³	1	1	0
	D202	2B	83m ²		16m ²	4.m ³	1	1	0
	D203	1B	57m ²		8m ²	4.m ³	1	0	0
	D204	2B	83m ²		16m ²	4.m ³	1	1	0
	D205	2B	88m ²		16m ²	4.m ³	0	1	1
L3	D301	2B	88m ²	38m ²	16m ²	4.m ³	1	1	0
	D302	2B	83m ²		16m ²	4.m ³	1	1	0
	D303	1B	57m ²		8m ²	4.m ³	1	0	0
	D304	2B	83m ²		16m ²	4.m ³	1	1	0
	D305	2B	88m ²		16m ²	4.m ³	0	1	1
L4	D401	2B	88m ²	38m ²	16m ²	4.m ³	1	1	0
	D402	2B	83m ²		15m ²	4.m ³	1	1	0
	D403	1B	53m ²		12m ²	4.m ³	1	0	0
	D404	2B	83m ²		15m ²	4.m ³	1	1	0
	D405	2B	88m ²		15m ²	4.m ³	0	1	1
TOTALS			1588m ²	152m ²	380m ²	80.m ³	16	16	4
PERCENTAGES							80%	80%	20%
REQUIRED							>70%	>60%	<15%

BLOCK E									
LEVEL	UNIT	TYPE	SIZE (1)	LOBBY (2)	POS AREA (3)	STORAGE (4)	SUNLIGHT ACCESS (5)	CROSS VENT. (6)	NO DIRECT SUNLIGHT (7)
L1	E101	2B	80m ²	83m ²	17m ²	4.3m ³	1	1	0
	E102	1B	54m ²		15m ²	4.2m ³	1	0	0
	E103	1B	54m ²		15m ²	4.2m ³	1	0	0
	E104	1B	53m ²		15m ²	4.8m ³	1	0	0
	E105	1B	55m ²		15m ²	4.8m ³	1	1	0
	E106	1B	54m ²		22m ²	4.2m ³	0	1	1
	E107	2B	80m ²		18m ²	4.2m ³	0	0	1
	E108	2B	80m ²		18m ²	4.m ³	0	0	1
	E109	2B	84m ²		30m ²	4.m ³	1	1	0
L2	E201	2B	80m ²	75m ²	11m ²	4.m ³	1	1	0
	E202	1B	54m ²		11m ²	4.2m ³	1	0	0
	E203	1B	54m ²		11m ²	4.2m ³	1	0	0

	E204	1B	52m ²		11m ²	4.8m ³	1	0	0
	E205	2B	83m ²		11m ²	4.8m ³	1	1	0
	E206	1B	54m ²		12m ²	4.m ³	0	0	1
	E207	2B	80m ²		14m ²	4.m ³	0	0	1
	E208	2B	80m ²		14m ²	4.6m ³	0	0	1
	E209	2B	84m ²		18m ²	4.m ³	1	1	0
L3	E301	2B	80m ²	75m ²	11m ²	4.3m ³	1	1	0
	E302	1B	54m ²		11m ²	4.2m ³	1	0	0
	E303	1B	54m ²		11m ²	4.2m ³	1	0	0
	E304	1B	52m ²		11m ²	4.8m ³	1	0	0
	E305	2B	83m ²		11m ²	4.8m ³	1	1	0
	E306	1B	54m ²		12m ²	4m ²	0	1	1
	E307	2B	80m ²		14m ²	4m ²	0	0	1
	E308	2B	80m ²		14m ²	5m ²	0	0	1
	E309	2B	84m ²		18m ²	4m ²	1	1	0
L4	E401	2B	80m ²	75m ²	11m ²	4m ²	1	1	0
	E402	1B	54m ²		11m ²	4m ²	1	0	0
	E403	1B	54m ²		11m ²	4m ²	1	0	0
	E404	1B	52m ²		11m ²	5m ²	1	0	0
	E405	2B	83m ²		11m ²	4m ²	1	1	0
	E406	1B	54m ²		12m ²	4m ²	0	1	1
	E407	2B	80m ²		14m ²	4m ²	0	0	1
	E408	2B	80m ²		14m ²	4m ²	0	0	1
	E409	2B	84m ²		18m ²	4m ²	1	1	0
TOTALS			2457m ²	308m ²	504m ²	154m ²	24	15	12
PERCENTAGES							67%	42%	33%
REQUIRED							>70%	>60%	<15%

Overall Development							
	SIZE (1)	LOBBY (2)	POS AREA (3)	STORAGE (4)	SUNLIGHT ACCESS (5)	CROSS VENT. (6)	NO DIRECT SUNLIGHT (7)
TOTALS	8125	924	1800	370.1m ³	84	72	16
PERCENTAGES					78%	67%	15%
REQUIRED					>70%	0%	<15%

Notes:

- (1) (1) Studio >35m², 1b>50m², 2b>70m², 3b>90m²
- (2) No more than 8 apartments per lobby
- (3) Studio >4m², 1b>8m², 2b>10m², 3b>12m² & ground floor(L1) apartments>15m²
- (4) >70% min. of apartments to receive 2 hours of sun between 9am and 3pm on June 21
- (5) >60% min. of apartments to be naturally ventilated
- (6) <15% max. of apartments receive no sunlight

Hi Rod

As discussed, please find attached amended plans and elevations showing the windows of the units on the north west corner of Block D shuffling to the south in order to reduce the angle further between the bedrooms and balconies.

Minimum separation distances for buildings are:

Up to four storeys (approximately 12m):

- 12m between habitable rooms/balconies
- 9m between habitable and non-habitable rooms
- 6m between non-habitable rooms

As per the above extract taken from the Apartment Design Guide, we are confident that the separation between Blocks D & E is compliant.

As the area in question is between the habitable bedrooms in Block D & the blank wall (say non habitable) on Block E, the 9.0 m separation requirement applies.

If you require any further clarification, please let us know.

Regards

Rodney Crawford

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